REMARKS

Claims 1 and 6 have been amended. Claims 1-4 and 6-10 are pending in the application.

A marked-up version of the amended claims showing the changes from the previous version of the claims is attached hereto, with additions underlined.

It is respectfully submitted that entry of the above amendments is appropriate and desirable, as the amendments emphasize the differences between the invention and the prior art.

Prior Art Rejections

Claims 1-4 and 6-10 were rejected under 35 U.S.C. §102(b) as being anticipated by Rohrlach et al. (U.S. Patent No. 5,082,609).

Rohrlach et al. fail to teach or suggest the invention as currently claimed. Rohrlach et al. does not teach or suggest a trim panel having a polyurethane foam bonded to a fiber reinforcing layer. To the contrary, Rohrlach et al. teach a fiber reinforcing mat located entirely within a rigid polyurethane layer, not within or bonded to the foam layer. The Rohrlach et al. patent expressly teaches a process wherein the fiber glass "is impregnated . . . by a further two pot mix of mouldable polyurethane . . ., the polyurethane however not being elastomeric . . . but being of a material which sets to become rigid after it has embodied the fibers of the glass sheet 24." See column 3, lines 10-16 of the Rohrlach et al. patent.

The Rohrlach et al. patent only describes layer 12 as being a cellular or foam material, and does not teach or suggest that rigid polyurethane layer 11 is or could be a foam material. Further, it is respectfully submitted that those having ordinary skill in the art would not find motivation in the teachings of Rohrlach et al. for replacing the rigid structural substrate 11 with a foam material.

Because the rigid polyurethane described by Rohrlach et al. embodies the glass sheet 24, molded foam material layer 12 does not extend "between said upholstery skin material and said [porous] substrate" or bond "said skin material to said porous substrate" as required by the claims. Further, Rohrlach et al. do not suggest these requirements.

Accordingly, it is respectfully submitted that the rejection based on the teachings of Rohrlach et al. are now inappropriate and should be withdrawn.

Claims 1-4 and 6-10 were rejected under 35 U.S.C. §102(b) as being anticipated by Takeuchi et al. (U.S. Patent No. 5,180,617).

The Examiner has taken the position that the claims did not exclude an interior trim member wherein the fibrous reinforcement is embedded within the molded foam as taught by Takeuchi et al. Applicant disagrees. The claims require that the molded foam material extend between the upholstery skin material and the substrate, and bond the skin material to the substrate. A substrate is a substratum, which is defined as "a base for something else," i.e., a foundation. See the attached page 2280 of *Webster's Third New International Dictionary Of The English Language Unabridged*, G. & C. Merriam Company, Springfield, Massachusetts, 1971. Although one would not normally expect that a material used to bond two other materials together would encompass one of the two other materials, it would not be consistent with the ordinary usage of the English language to say that a material that extends between and bonds a facing to a substrate could encompass the substrate. The Applicants have not given the word "substrate" a special meaning that is inconsistent (perhaps repugnant) with its ordinary usage. In this regard, note that the claims are directed to the embodiment of Fig. 1 wherein fiber reinforcement mat 16 is alternatively described as a substrate, not the embodiment of Fig. 7, wherein fibrous mat 16', which is encompassed by the polyurethane foam material 14', is not alternatively described as a substrate. This distinction (inherent in the claims prior to the amendment) has been further emphasized by the added language reciting that the "porous substrate is held to a side of the trim piece that is opposite of the upholstery skin material."

Because a substrate cannot be embedded in (i.e., completely encompassed by) a material extending between a skin material and the substrate, and bonding the skin material to the substrate, the fibrous material 1 of Takeuchi et al. cannot be regarded as a substrate.

Porous sheet material 9 is not completely encompassed by foam material 3, and therefore could be regarded as a porous substrate. However, porous sheet material 9 and upholstery skin material 7 are not substantially coextensive as required by the claims. Further, Takeuchi et al. does not suggest that porous sheet material 9 should be coextensive with the upholstery skin material. To the contrary, Takeuchi et al. teach against sheet material 9 being coextensive with the upholstery skin. The purpose of upholstery skin material 9 is to prevent lifting of fiber reinforcement away from the facing when the mold used to form the interior finishing panel is closed. Takeuchi et al. teach that fibrous material 1, which is substantially coextensive with upholstery skin 7, pulls away from the convex portions of the panel when the mold is closed, which in turn causes voids to form between the fibrous material and the upholstery skin, whereby peeling of the upholstery skin from base 3 may result during thermal cycling. Takeuchi et al. teach that the porous sheet material 9 is placed only in the convex areas of the part to force material 1 toward the convex section 7. Those having ordinary skill in the art would understand that the object of the Takeuchi et al. invention would not be achieved if sheet material 9 was coextensive with upholstery skin 7 since this would be essentially the same as using a thicker layer of reinforcing material 1, with the result being that both coextensive layers are pulled away from the skin layer at the convex sections of the part when the mold is closed. Accordingly, those having ordinary skill in the art would not be motivated to modify the teachings of Takeuchi et al. so that the porous sheet materials 9 are substantially coextensive with the upholstery skin layer 7.

Therefore, it is respectfully submitted that Takeuchi et al. does not teach or suggest the claimed invention, such that withdrawal of the rejection is appropriate.

Rejection Under 35 U.S.C. §112, First Paragraph

Claims 1-4 and 6-10 were rejected under 35 U.S.C. §112, first paragraph, on grounds that they contain subject matter which was not described in the specification in such way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Specifically, the Examiner has stated that the specification fails to teach that the upholstery skin material is substantially coextensive with the substrate.

It is respectfully submitted that while the specification does not expressly state that the substrate is substantially coextensive with the skin material, Fig. 1 clearly shows that substrate 16 and upholstery skin layer 12 are substantially coextensive. The substantial coextensiveness of substrate 16 with upholstery skin layer 12 is also shown in Fig. 3. Applicant does not disclose or even suggest an embodiment wherein the fibrous reinforcing material 16 and the upholstery sheet material layer are not substantially coextensive. In fact, with respect to the embodiment shown in Fig. 7, the specification expressly states, at page 8, lines 18-19, that semi-rigid polyurethane foam material 14' serves as a "foam separation layer between all portions of skin 12 and reinforcement mat 16." Thus, those having ordinary skill in the art would understand from the drawings and specification that Applicants contemplated a vehicle trim piece having a porous substrate bonded to an upholstery skin material by a molded foam material, wherein the porous substrate and the upholstery skin material are substantially coextensive. Therefore, it is respectfully submitted that the rejection under 35 U.S.C. §112, first paragraph, should be withdrawn.

CONCLUSION

In view of the above amendments and remarks, is it respectfully submitted that the application is in condition for allowance and notice of the same is earnestly solicited.

Respectfully submitted,

TONY M. POKORZYNSKI ET AL.

By: Price, Heneveld, Cooper, DeWitt & Litton

August 21, 2001
Date

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claims 1 and 6 have been amended as follows:

1. (Fourth Amend) An integrated interior trim member for a vehicle comprising:

a porous substrate;

an upholstery skin material, said upholstery skin material being substantially coextensive with said substrate; and

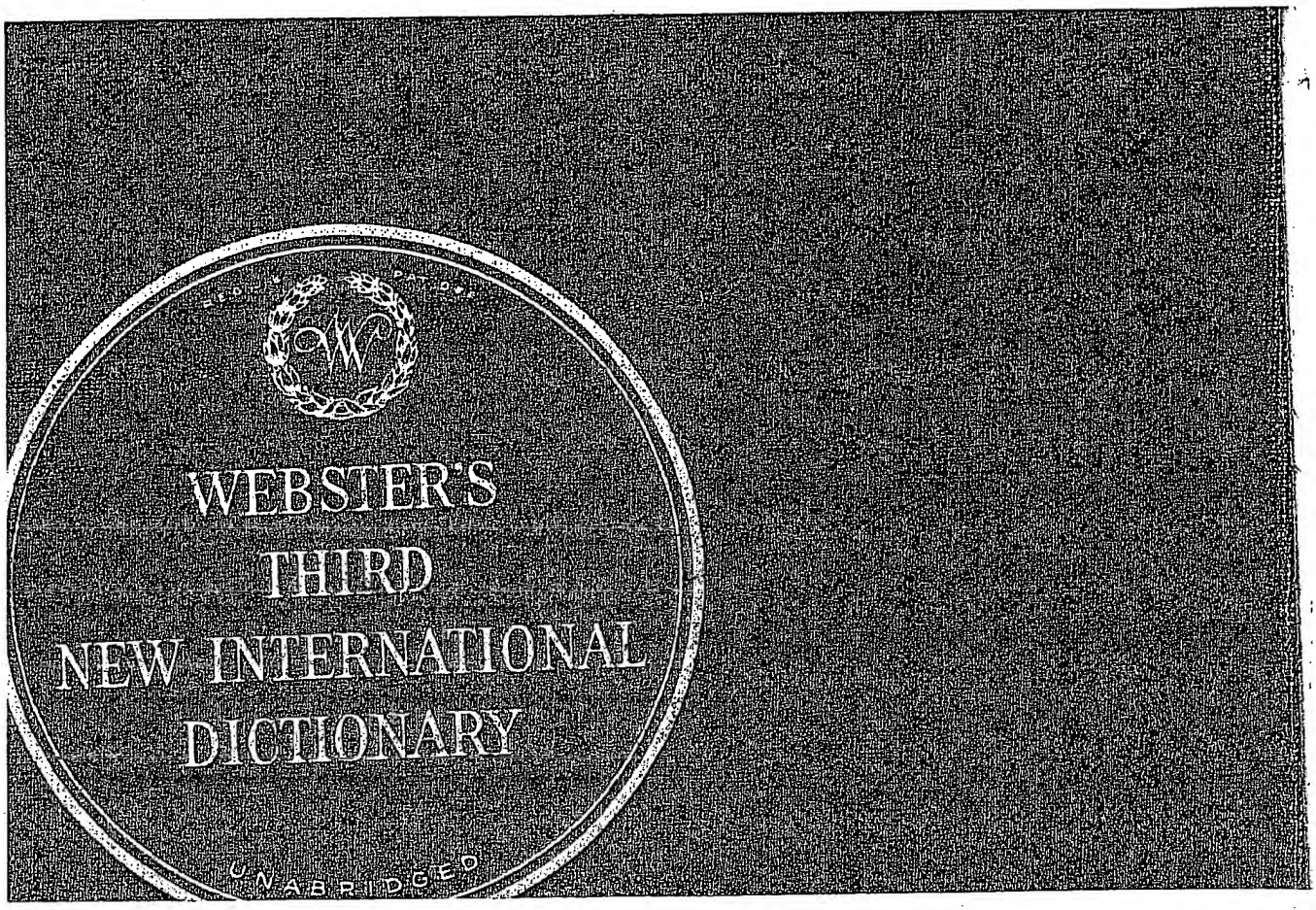
a molded foam material extending between said upholstery skin material and said substrate, said molded foam material bonding said skin material to said porous substrate, whereby said porous substrate is held to a backside of the trim piece that is opposite of the upholstery skin material.

6. (Fourth Amend) An integral interior trim member for a vehicle comprising:

an upholstery skin material, said upholstery skin material being substantially coextensive with said substrate;

a molded foam layer bonded to said upholstery skin material; and

a porous substrate bonded to said molded foam layer, said molded foam layer extending between said upholstery skin material and said porous substrate, whereby said porous substrate is held to a side of the trim piece that is opposite of the upholstery skin material.


WEBSTER'S
THIRD
NEW INTERNATIONAL
DICTIONARY
UNABRIDGED

living space, safety facilities, or maintenance) in respect to a standard set by legal or other authoritative sources **b** : conforming to a pattern of linguistic usage existing within a speech community but not that of the prestige group in that community in choice of word (as *set*, for *sit*), form of word (as *brung*, for *brought*), pronunciation (as *twicet*, for *twice*), grammatical construction (as the boys *is* growing fast), or idiom (as *all to once*, for *all at once*) — compare NONSTANDARD **c** : constituting a greater than normal chance of loss to an insurer due to some inherent and determinable cause (as poor health or unusual fire hazard) ⟨a ~ life⟩ ⟨a ~ risk⟩; *also* : covering a substandard risk usu. in return for an extra premium ⟨~ insurance⟩ **d** *of motion-picture film* : narrower than 35 millimeters

²substandard \"\ *n* [in sense 1, fr. *sub-* + *standard*, n.; in sense 2, fr. ¹*substandard*] **1** : a secondary standard used in measurement and esp. to check the accuracy of commercial measuring devices (as scales) **2** : something (as a way of living) that is substandard

sub-stan-tia \səbz'tanch(ē)ə, -b'st-\ *n, pl* **substanti·ae** \-chē,ē\ [NL, fr. L, substance] : anatomical material, substance, or tissue

sub-stan-tia-ble \-ch(ē)əbəl\ *adj* [*substantiate* + *-able*] : capable of being substantiated

¹sub-stan-tial \səbz'tanchəl, -b'st-, -ttaan-\ *adj* [ME *substancial*, fr. LL *substantialis*, fr. L *substantia* substance + *-alis* -al — more at SUBSTANCE] **1 a** : consisting of, relating to, sharing the nature of, or constituting substance : existing as or in substance : MATERIAL ⟨~ life⟩ ⟨the ~ realities⟩ ⟨most ponderous and ~ things —Shak.⟩ **b** : not seeming or imaginary : not illusive : REAL, TRUE ⟨the ~ world⟩ ⟨a mere dream neither ~ nor practical⟩ **c** : being of moment : IMPORTANT, ESSENTIAL **2 a** : adequately or generously nourishing : ABUNDANT, PLENTIFUL ⟨set a ~ table⟩ ⟨after that too ~ dinner⟩ **b** : possessed of goods or an estate : moderately wealthy : WELL-TO-DO ⟨a ~ man⟩; *often* : having a good and well-maintained income-producing property ⟨a ~ farmer⟩ ⟨the more ~ tradesmen⟩ **c** : considerable in amount, value, or worth ⟨made a ~ gain on the transaction⟩ **3 a** : having good substance : firmly or stoutly constructed : STURDY, SOLID, FIRM ⟨a ~ house⟩ ⟨~ cloth⟩ **b** : having a solid or firm foundation : soundly based : carrying weight ⟨a ~ argument⟩ ⟨~ evidence⟩ **4 a** : being that specified to a large degree or in the main ⟨a ~ victory⟩ ⟨a ~ lie⟩ **b** : of or relating to the main part of something SYN see MASSIVE

²substantial \"\ *n* -s [ME *substancial*, fr. *substancial*, adj.] : something that is substantial: as **a** : something having substance or actual existence **b** : something having good substance or actual value **c** : something of moment : an important or material matter, thing, or part

substantial damages *n pl* : damages which bring about actual economic loss or for which compensation in a substantial amount are awarded as distinguished from nominal damages awarded only to vindicate a legal right

substantial form *n* [ME *forme substancial*, trans. of ML *forma substantialis*, trans. of Gk *ousiōdes eidos*] : the form or nature that according to the scholastics gives to an individual substance its specific or generic character

sub-stan-ti-a-lia \ˌ=ˌchē'ālēə\ *n pl* [NL, fr. neut. pl. of LL *substantialis* substantial] *Scots law* : the formally essential parts of a deed

sub-stan-tial-ism \ˌ='chəˌlizəm\ *n* -s : either of two doctrines in philosophy: **a** : one holding that constant realities or substances underlie phenomena **b** : one holding that matter is a real substance rather than an aggregation of centers of force

sub-stan-tial-ist \-ləst\ *n* -s : a proponent of a doctrine of substantialism

sub-stan-ti-al-i-ty \ˌ=ˌchē'alad-ē, -ləte, -ī\ *n* -ES [LL *substantialitas*, fr. *substantialis* substantial + L *-itas* -ity] : the quality or state of being substantial : CORPOREITY, MATERIALITY

sub-stan-tial-ize \ˌ='chəˌlīz\ *vt* -ED/-ING/-S : to make substantial : give substance to

subs-tan-tial-ly \səbz'tanch(ə)lē, -b'st-, -ttaan-, -lī\ *adv* [ME *substancially*, fr. *substancial* + *-ly*] : in a substantial manner : so as to be substantial

sub-stan-tial-ness \-chəlnəs\ *n* -ES : SUBSTANTIALITY

substantial right *n* : a legal right affecting or involving a matter of substance as distinguished from matters of form : a right materially affecting those interests which a man is entitled to have preserved and protected by law : a material right

sub-stan-tia ni-gra \-'nīgrə, -'nig-\ *n, pl* **substantiae ni·grae** \-(ˌ)grē\ [NL, lit., black substance] : a layer of deeply pigmented gray matter in the midbrain separating the cerebral peduncles from the tegmentum above

substantia pro·pria \-'prōprēə\ *n, pl* **substantiae propri·ae** \-ēˌē\ [NL, lit., the tissue proper] : the layer of lamellated transparent fibrous connective tissue that makes up the bulk of the cornea of the eye

sub-stan-ti-ate \səbz'tanchēˌāt, -b'st-, -ttaan- *sometimes* -n(t)sē-, *chiefly substand* -nchə,wāt; *usu* -ād-+V\ *vt* -ED/-ING/-S [NL *substantiatus*, past part. of *substantiare* to substantiate, fr. L *substantia* substance — more at SUBSTANCE] **1** : to impart substance or material form or being to **2 a** : to put into concrete form : EMBODY **b** : to make solid or firm **3** : to establish the existence or truth of by proof or competent evidence : VERIFY ⟨~ a charge⟩ SYN see CONFIRM

sub-stan-ti-a-tion \ˌ=ˌē'shən, *chiefly substand* =ˌēsē'wāshən\ *n* -S **1** : an act of substantiating (as by proving) **2** : something adduced as proof : EVIDENCE — **sub-stan-ti-a-tive** \ˌ='ē-ˌād-iv, *chiefly substand* -ēsē,wā-\ *adj*

sub-stan-ti-a-tor \ˌ='ē-ˌād-ə(r), -ēsē-, *chiefly substand* -,wā-\ *n* -S : one that substantiates something

sub-stan-ti-fi-ca-tion \səbˌztanˌtəfə'kāshən, -b,st-\ *n* -S [fr. *substantify*, after such pairs as E *magnify*: *magnification*] : an act or product of substantifying

sub-stan-ti-fy \ə'=ēˌfī\ *vt* -ED/-ING/-ES [ML *substantificare*, fr. L *substantia* substance + *-ficare* -fy] **1** : to give substance or substantive character to **2** : SUBSTANTIVATE

sub-stan-tious \səbz'tandēəs, -b'st-\ *adj* [MF *substancious*, *substancieus*, fr. OF *substance* + *-ious*, *-ieus* -ious] *chiefly Scot* : HEAVY, POWERFUL, SUBSTANTIAL, EFFECTUAL

sub-stan-ti-val \ˌsəbzɪən-ˈtīvəl, -bst-\ *adj* : of, relating to, or having the nature or function of a substantive — **sub-stan-ti-val-ly** \-vəlē\ *adv*

sub-stan-ti-vate \'səbztəntəˌvāt, -bst-; səbz'tantəˌv-, -b'st-\ *vt* -ED/-ING/-S : to convert into or use as a substantive ⟨the tendency to ~ adjectives⟩ — **sub-stan-ti-va-tion** \ˌ=ˌtə'vāshən, ˌ=ˌē\ *n* -S

¹sub-stan-tive \'səbztəntiv, -bst-\ *n* -S [ME *substantif*, fr. MF, fr. ML *substantivum* (trans. of LGk *hyparktikon*), fr. neut. of LL *substantivus* self-existent, substantive] **1 a** : a word or part of speech that names or identifies something : a noun or noun equivalent (as a pronoun, phrase, or absolute adjective) ⟨in "the good die young" *good* is a ~⟩ **b** : a categorematic term **2** : an independent thing or person : a self-existent entity

²substantive \", *in senses other than 2c & 3 also* səbz'tantiv *or* -b'st- *or* -ttaan- *or* -ᵊtēv *or* -ntəv\ *adj* [ME, fr. LL *substantivus*, fr. L *substant-*, *substans* (pres. part. of *substare* to stand under, stand firm) + *-ivus* -ive — more at SUBSTANCE] **1** : having the character of an independent self-subsistent entity or thing : existing in its own right : not derivative or dependent : SELF-CONTAINED **2 a** (1) : having the character or status of or referring to something that is real rather than apparent : FIRM, SOLID (2) : enduring or permanent as distinguished from transitory **b** : belonging to the essence or intrinsic nature of the substance as distinguished from something that is accidental or qualifying : ESSENTIAL **c** : betokening or expressing existence (the ~ verb is the verb *to be*) **d** (1) : of, relating to, or being a dye that requires no mordant or a dyeing process involving such a dye : DIRECT — opposed to *adjective* (2) : having a specific affinity for a fiber (as wool or cellulose) **3 a** : having the nature or function of a grammatical substantive ⟨a ~ phrase⟩ **b** : relating to or having the character of a noun or pronomial term in logic : CATEGOREMATIC — contrasted with *adjective* **4** : considerable in amount or numbers : SUBSTAN-

substantive genitive *n* : a genitive that includes in its denotation the meaning of a qualified noun to be understood with it ⟨in "I spent the night at my brother's" *brother's* is a *substantive genitive* carrying the implication "residence"⟩

substantive law *n* : a branch of law that prescribes the rights, duties, and obligations of persons to one another as to their conduct or property and that determines when a cause of action for damages or other relief has arisen — compare ADJECTIVE

sub-stan-tive-ly \-ntəvlē, -lī\ *adv* **1** : in a substantive manner : in substance : ESSENTIALLY **2** : as a substantive ⟨the phrase is here used ~⟩

sub-stan-tive-ness \-ntivnəs, -ntēv-, -ntəv-\ *n* -ES : the quality or state of being substantive

substantive right *n* : a right (as of life, liberty, property, or reputation) held to exist for its own sake and to constitute part of the normal legal order of society — compare REMEDIAL RIGHT

sub-stan-tiv-i-ty \ˌsəbztənˈtivəd-ē, -bst-\ *n* -ES **1** : SUBSTANTIALITY **2** : the attraction between a substance (as dye) in solution and a fiber — compare AFFINITY 2b

sub-stan-tiviza-tion \ˌ=ˌ(ˌ)tivə'zāshən, səbzˌtantəv-, -b,sta-, -ˌvī'z-\ *n* -S : an act or instance of substantivizing

sub-stan-tivize \'=ˌtīˌvīz, ə'=tə,v-\ *vt* : SUBSTANTIZE

sub-stan-tize \'=ˌtīz\ *vt* -ED/-ING/-S [*substantive* fr. ¹*substantive* + *-ize*; *substantize* fr. ¹*substantive* + *-ize*] : to convert into or use as a substantive ⟨an adjective can easily be *substantivized*⟩

sub-station \'səb-ˌ, -\ *n* [*sub-* + *station*] : a station subordinate or subsidiary to another station: as **a** : a station which is subsidiary to a central station and at which high-tension electricity from the central station is transformed to electricity lower in potential and converted if desired to continuous current or to alternating current of a different frequency **b** : a small post-office station (as a contract station in a drug store or a station set up at a convention for handling philatelic mail) **c** : a subordinate station that rebroadcasts messages from a primary station of a communication system

substellar point \ˌsəb+...-\ *n* [*substellar* fr. *sub-* + *stellar*] : the point on the earth's surface at which a particular star is in the zenith

sub-sternal \"+\ *adj* [ISV *sub-* + *sternal*] : situated or perceived beneath the sternum (~ pain⟩

substile *var of* SUNSTYLE

sub-stit-u-end \səbz'tichəˌwend, -b'st-\ *n* -S [NL *substituendum*] : something that can be or is substituted in a logical relation

sub-stit-u-en-dum \(ˌ)=ˌē='wendəm\ *n, pl* **substituen·da** \-də\ [NL, fr. neut. of L *substituendus*, gerundive of *substituere* to substitute] : something that is to be substituted in a logical relation

¹sub-stit-u-ent \ə'=ənt, -wənt\ *n* -S [L *substituent-*, *substituens*, pres. part. of *substituere* to substitute] : something that is or may be substituted; *usu* : an atom or group substituted for another or entering a molecule in place of some other part that is removed ⟨aniline derivatives containing an alkyl or halogen ~ —*Veterinary Bull.*⟩

²substituent \"\ *adj* : functioning as a substituent

sub-sti-tut-abil-i-ty \ˌsəbztə,tüd ə'bilad-ē, -bst-, -tə-,tyü-, -üt-, -ləte, -ī\ *n* : capacity for being substituted : the quality or state of being substitutable

sub-sti-tut-able \'=ə,=ə-bəl\ *adj* : capable of being substituted or sometimes of substituting (as for one another)

¹sub-sti-tute \'səbztəˌtüt, -bst-, -tə-,tyü-, *rapid often* -bz,t(y)üt *or* -b,st(y)-; *usu* -üd +V\ *n* -S [ME, fr. L *substitutus*, past part. of *substituere* to put under, put in the place of, substitute, fr. *sub-* + *-stituere* (fr. *statuere* to set, place, stand up) — more at STATUTE] **1** : a person who takes the place of or acts instead of another: as **a** : an heir instituted under Roman, civil, or Scots law to succeed to property in case another heir named cannot or will not accept the succession : a conditionally appointed heir named to take possession in case another heir loses his ownership through default of some condition (as under a will or settlement) **b** : a person who enlists for military service in the place of a conscript or drafted man **2** : something that is put in place of something else or is available for use instead of something else ⟨honey is an excellent ~ for sugar in many recipes⟩: as **a** : something cheaper or inferior that is used instead of a standard article ⟨margarine is not a ~ but a distinctive article⟩ ⟨use of galvanized iron as a ~ for lead in flashing⟩ **b** : an artificial product used to replace a natural ⟨a valuable milk ~ prepared from soybeans⟩ **c** : a word or grammatical feature that replaces another word, a phrase, or a clause, in a context ⟨a pronoun serves as a ~⟩ **3 a** : any of several connections used for joining oil-well appliances that are of different sizes or that have different joint details — called also *sub* **b** : a special tool or part used in place of a regular tool SYN see RESOURCE

²substitute \"\ *vb* -ED/-ING/-S [L *substitutus*, past part. of *substituere* to substitute] *vt* **1 a** : to put in the place of another : EXCHANGE **b** : to introduce (as an atom or group) by substitution ⟨~ sulfur for oxygen in a molecule⟩ **2** *obs* : to invest with delegated authority : designate as a delegate **3** : to take the place of ⟨~ a new technique⟩ **4** : to nominate (a person) to take a remainder — compare SUBSTITUTION 1a(3) ~ *vi* : to function, serve, or act as a substitute

³substitute \"\ *adj* [L *substitutus*, past part. of *substituere*] **1** : serving as or fitted for use as a substitute ⟨a ~ food⟩ **2** : involving the use of substitutes ⟨~ feeding of infants⟩

substitute broker *n* : a person making a profession of securing military substitutes esp. during the American Civil War

substituted *adj* [fr. past part. of ²*substitute*] : put in the place of another: as **a** : appointed by a person to take the place of himself or another or of something else and esp. to act in his own stead or to act on the happening of a particular event in the stead of another : appointed by substitution ⟨a ~ executor⟩ ⟨a ~ legacy⟩ **b** : having been subjected to a substitution reaction or having some of its parts replaced ⟨alcohol is a ~ water⟩ ⟨methylamine is a ~ ammonia⟩

substituted service *n* : the service of a legal writ, process, or summons otherwise than by personal service (as by leaving it at a defendant's place of business or residence or with his agent, by mail, or by publication)

substitute fiber *n* : a living parenchyma cell with the form of a fiber, simple pits, and relatively thick walls that occurs esp. in sapwood

sub-sti-tut-er \'sübzəd-ə(r), -tüt-\ *n* -S : one that substitutes

sub-sti-tut-ibil-i-ty *n* -ES [by alter.] : SUBSTITUTABILITY

sub-sti-tu-tion \ˌsəbztə'tüshən, -bst-, -tə-'tyü-\ *n* -S *often attrib* [ME *substitucion*, fr. MF *substitution*, fr. LL *substitution-*, *substitutio*, fr. L *substitutus* (past part. of *substituere* to substitute) + *-ion-*, *-io* -ion] **1** : the substituting of one person or thing for another: as **a** *Roman law* (1) : the nomination of someone to be heir upon the failure of an heir previously named to take an inheritance — called also *common substitution*, *vulgar substitution* (2) : the similar nomination of a person to take as heir in place of or to succeed a descendant under puberty and in the potestas of the testator in case of the descendant's failure to take the inheritance or on his death before puberty or to succeed a descendant of any age who is a lunatic (3) : a designation by a testator that names one to whom property is to be handed over by the person named as heir or by his heir and that gives rise to a fideicommissum; *also* : a designation under civil law of a person to succeed to another as beneficiary of an estate used as a means of settling property and involving a fideicommissum **b** : the replacing of a quantity by its equal or of a variable by a value of it or of an algebraic expression or function by one that is equal in value **c** (1) : a chord that produces an unexpected or less likely resolution in place of a likelier resolution (2) : a change of fingers on a digital of a keyboard instrument **d** : a chemical reaction in which one or more atoms or groups in a molecule are replaced by equivalent atoms or groups to form at least two products; *esp* : the replacement of hydrogen in an organic compound by another element or group ⟨the ~ of one chlorine atom for one hydrogen atom of methane gives methyl chloride⟩ — often contrasted with *addition*; compare EXCHANGE 2e **e** : the replacing of a linguistic form by a substitute in a context **1** (1) : the replacing in Greek or

silence that replaces expected sound and occupies the time of a foot or syllable — compare INVERSION, IONIC DISPLACEMENT **g** (1) : the deceptive replacing of one material or product by another of less worth (2) : the natural economic tendency for the less costly of two or more operations or agencies to replace the more costly **h** (1) : the turning from an obstructed desire to another desire whose gratification is socially acceptable (2) : the turning from an obstructed form of behavior to a different and often more primitive expression of the same tendency ⟨a ~ neurosis⟩ (3) : the reacting to each of a set of stimuli by a response prescribed in a key ⟨a ~ test for speed of learning new responses⟩ **2** : something that functions as a substitute or exists in a particular relation as a result of an act of substituting: as **a** : material substituted ⟨the ~ was found to be harmless⟩ **b** : a sound change consisting in the replacement or apparent replacement of one vowel or consonant by another **c** : an instance of linguistic substitution **d** : a cipher or method of ciphering that replaces message letters or polygraphs with substitutes

sub-sti-tu-tion-al \ˌ=ˌē(ˌ)tü'(ə)shənᵊl, -shnəl\ *adj* : of, relating to, or constituting substitution — **sub-sti-tu-tion-al-ly** \-ᵊlē, -əl, -ᵊlī\ *adv*

sub-sti-tu-tion-ary \-shəˌnerē, -rī\ *adj* : of or relating to substitution; serving by way of a substitute : SUBSTITUTIONAL

substitution instance *n* : a statement in logic derived from a statement form by substitution of constants for variables

substitution rule *n* : a principle in logic specifying what expressions may be substituted for one another ⟨a *substitution rule* specifying that the definiendum may replace the definiens⟩

substitution tables *n pl* : tables of sentences in which equivalents may be substituted for their elements and which are used esp. in grammar drill

substitution vein *or* **substitution deposit** *n* : a metalliferous vein formed by the partial or complete substitution of the vein material for the original rock or mineral — called also *replacement vein*

sub-sti-tu-tive \'səbztəˌtüd-ə|iv, -bst-, -tə-,tyü-, -üt|, ēv *also* |əv\ *adj* [L *substitutus* (past part.) + E *-ive*] : tending to afford or furnish a substitute : suitable as a replacement : making or capable of substitution ⟨~ behavior⟩ — **sub-sti-tu-tive-ly** \|əvlē, -lī\ *adv*

sub-story \ˌsəb +\ *n* [*sub-* + *story*] : a lower story; *specif* : a layer of forest growth that does not reach to the canopy ⟨a ~ of shrubby growth and young replacement⟩

sub-stract \səbz'trakt, -b'st-\ *vb* -ED/-ING/-S [LL *substractus*, past part. of *substrahere* to draw from beneath, withdraw, alter. (influenced by L *subs-*, var. of *sub-*) of L *subtrahere* — more at SUBTRACT] : SUBTRACT, WITHDRAW, WITHHOLD ⟨so far from adding to, it will ~ from, the quantity of labor necessary —Jeremy Bentham⟩

sub-strac-tion \-kshən\ *n* -S [ML *substraction-*, *substractio*, fr. LL *substractus* (past part.) + L *-ion-*, *-io* -ion] **1** : SUBTRACTION ⟨rendering back to us with additions or ~s, and held by which existing things have of themselves presented to him —Thomas Carlyle⟩ **2** : secret misappropriation of property and esp. from a decedent's estate : EMBEZZLEMENT

sub-stratal \'səb +\ *adj* [*substratum* + *-al*] : of or relating to a substrate or substratum : BASIC, UNDERLYING

¹sub-strate \'səbzˌtrāt, -b,st-\ *n* -S [ML *substratum*] **1** : SUBSTRATUM **2 a** : ¹BASE 2b(1), CARRIER 9b **b** : the base on which an organism lives ⟨the soil is the ~ of most seed plants while rocks, soil, water, tissues, or other media are ~s for various other organisms⟩ **3 a** : a substance acted upon (as by an enzyme) ⟨an enzyme-*substrate* complex⟩ **b** : a source of reactive material (as a nutritive medium) ⟨cultures developing on a nutrient agar ~⟩

²substrate \"\ *adj* : of, relating to, forming, or taking place in a substrate; *sometimes* : BASIC, FUNDAMENTAL

sub-stra-tist \'səbzˌträd-əst, -b,st-\ *n* -S [*substratum* + *-ist*] : one that explains some feature of a language by reference to a substratum

sub-stra-tive \-ād-iv\ *adj* [*substratum* + *-ive*] **1** : of, relating to, or constituting a substrate or substratum **2** : UNDERLYING, FUNDAMENTAL

sub-stratose \'səb+\ *adj* [*sub-* + *stratose*] : indistinctly or irregularly stratified

sub-stratosphere \"+\ *n* [ISV *sub-* + *stratosphere*] : the region of the atmosphere just below the stratosphere — **sub-stratospheric** \"+\ *adj*

sub-stratum \'səb+\ *n, pl* **substrata** *also* **substratums** [ML, fr. neut. of L *substratus*, past part. of *substernere* to spread under, strew under, fr. *sub-* + *sternere* to strew — more at STREW] : something that is laid or spread under or that underlies and supports or forms a base for something else : an underlying structure, layer, or part : FOUNDATION: as **a** (1) : a permanent characterless support of properties of a thing or reality : substance as a support of attributes (2) : such a support regarded as a cause of a thing or its properties **b** : the material of which something is made and from which it derives its special qualities ⟨protoplasm is the material ~ of life⟩ **c** : a layer of rock or earth beneath the surface soil; *specif* : SUBSOIL **d** : SUBSTRATE 2, 3 **e** : a thin coating (as of hardened gelatin) on the support of a photographic film or plate to facilitate the adhesion of the sensitive emulsion **f** : a language that is extinct in a particular region but is believed by some linguists to have left traces of its structure in a current or more recently introduced language of that region as a result of imperfect learning of the introduced language by the native population

sub-striate \"+\ *adj* [*sub-* + *striate*] : marked indistinctly with striations

sub-struct \(ˌ)səbzˈtrəkt, -b'st-\ *vt* -ED/-ING/-S [L *substructus*, past part. of *substruere* to build beneath, fr. *sub-* + *struere* to arrange, build — more at STRUCTURE] : to build or lay beneath

sub-struc-tion \-kshən\ *n* -S [L *substruction-*, *substructio*, fr. *substructus* (past part.) + *-ion-*, *-io* -ion] : the underlying or supporting part of a fabrication (as a building or dam) — **sub-struc-tion-al** \-kshənᵊl, -shnəl\ *adj*

sub-structural \'səb +\ *adj* : of, relating to, or constituting a substructure

sub-structure \"+\ *n* [*sub-* + *structure*] : UNDERSTRUCTURE, GROUNDWORK: **a** : the foundation of a building or other structure **b** : the earth roadway supporting the ballast and track of a railway line

sub-stylar \"+\ *adj* : of or relating to the substyle

sub-style *or* **sub-stile** \'səbz,tīl, -b,st-\ *n* [*sub-* + *style* or obs. E *stile* style, fr. ME — more at STYLE] : a straight line on which the gnomon of a dial is erected and which constitutes the common section of the face of the dial and a plane perpendicular to it passing through the gnomon

sub-sulfate \'səb+\ *n* [*sub-* + *sulfate*] : a basic sulfate

sub-sul-tive \səb'səltiv\ *adj* [L *subsultus* (past part. of *subsilire* to leap up) + E *-ive*] : SUBSULTORY

sub-sul-to-ry \'=tərē\ *adj* [L *subsultus* (past part. of *subsilire* to leap up, fr. *sub-* up + *-silire*, fr. *salire* to leap) + E *-ory* — more at SUB-, SALLY] : involving irregularity of movement or advance : BOUNDING, LEAPING

sub-sum-able \(ˌ)səb'süməbəl *sometimes* -b'zü-\ *adj* : capable of being subsumed

sub-sume \-m\ *vt* -ED/-ING/-S [*sub-* + L *sumere* to take up, take — more at RESUME] **1** : to view, list, or rate as component in an overall or more comprehensive classification, summation, or synthesis : encompass as a part, example, or phase : classify as part of a larger schema or judge as a specific instance governed by a general principle ⟨Newtonian physics has not been overthrown so much as *subsumed* into a more embracing scheme —*Times Lit. Supp.*⟩ **2** *obs* : ASSUME, DEDUCE; *also* : to sum up : SUMMARIZE SYN see INCLUDE

sub-summation *n* [irreg. (influence of *summation*) fr. *subsume* + *-ation*] : an act or product of subsuming

sub-summit \'səb+\ *adj* [*sub-* + *summit*] : situated or occurring somewhat below an adjacent summit

sub-sump-tion \səb'səm(p)shən\ *n* -S [NL *subsumption-*, *subsumptio*, fr. *subsumptus* (past part. of *subsumere* to take under, subsume) + L *-ion-*, *-io* -ion] **1** : the minor premise in the former syllogistic criminal procedure under Scots law con-